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SPRING GROVE CEMETERY, CINCINNATI, OHIO

Modern Park Cemeteries

BY

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ILLUSTRATED

CHICAGO
Published by R. J. Haight
1912

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PREFACE

If one desires to take up any special line of professional or other work, a working library or text-book can be consulted which will give a fair knowledge of at least the theoretical part of the subject. The greater number of those at present engaged in cemetery work have drifted into this field from other channels, and their proficiency has been greatly delayed owing to a lack of any text-books giving information on the construction and management of cemeteries. To furnish such information in a practical and concise form, the present work has been prepared.

The author does not believe in lengthy articles or large volumes. We place a large sized volume aside, expecting to read it tomorrow, only to find that on the morrow we have even less time for reading than today. Hence the subjects herein treated have been condensed as much as

possible and subjects treated by other authors have been largely omitted.

It is hoped that this book may aid in the dissemination of knowledge of the modern ideas as expressed by its title. Modern methods have been brought about by the annual meetings of the leading cemetery officials in the organization of the Association of American Cemetery Superintendents. The published proceedings of this association and the pages of the monthly journal, "Park and Cemetery," have been freely used in the preparation of this work.

Many of the illustrations are reproductions of the author's photographs. Others have been furnished by various superintendents, to whom thanks are due. While any book is more or less the expression of the personal views of the author, in the present work an attempt has been made to state the facts in which a majority of cemetery officials concur. In many things, however, cemetery officials do not agree. Local conditions

vary so widely that the experience of different men in separate localities often leads to directly opposite views. The manuscript has been carefully reviewed by Wm. Salway, Superintendent of Spring Grove, Cincinnati; by Wm. Falconer, Superintendent of Allegheny, at Pittsburg; and by James Currie, Superintendent of Forest Home, Milwaukee. To them the author is indebted for many suggestions and kindly criticisms. The chapter on Road Construction was written by Myron H. West and contains much new matter, the result of his experience as Superintendent of the Lincoln park system, Chicago. Of special help have been the suggestions received from the publisher, R. J. Haight.

It is hoped that cemetery officials may find the work useful in educating lot owners to modern conditions in order that many of our present cemeteries may be improved. We have practiced fourteenth century methods of burial and been hidebound by religious fetish and

customs long enough. Common sense should teach us that the sod covered grave, marked only by a single stone sunk even with the turf, is best. When properly prepared such graves never become unsightly and are cared for by simply mowing the grass. Simplicity constitutes the essential feature of the modern park cemetery, for in simplicity lies beauty and economy.

H. E. W.

Portland, Ore., April 1, 1912.

CHAPTER I

CEMETERY HISTORY AND BURIAL CUSTOMS IN AMERICA

The word cemetery means a sleeping place and was first applied to places of burial by the early Christians. The ancient Romans practiced cremation, earth burial becoming a practice on account of the Christian belief in the resurrection of the body. Burial in the early times was made in tombs, not connected with the churches. Later persons prominent in ecclesiastical work were buried in or beneath the churches, and from this arose the practice of burying the distinguished dead in the churches, a custom practiced in America until recent years. An example of this is seen in the present method in England of burying the distinguished dead in Westminster Abbey.

Space in the churches being limited, the practice of burial in the churchyard became a custom in order that the dead would rest as near the sacred edifice as possible. Memories of the departed were a prominent part of the church work, the names on the tombstones being seen by the worshippers at each service, reminding the living of the virtues of the dead and man's mortality. Such church graveyards are today prominent landmarks in New England cities, especially Boston, New York and Philadelphia.

One of the most interesting of these is the Trinity Church graveyard in New York City. This is located on Broadway, just off Wall street, and occupies some of the most valuable land in the world. During the American Revolution thousands of soldiers were buried here, the bodies in many cases being placed one on top of another. During the summer of 1781 the grade was raised several feet by hauling in earth in order that the bodies might not be exposed on the surface. The

oldest tombstone bears date of 1681, although the first Trinity Church was not erected until 1698.

As population increased the necessity was seen of having burial grounds separated from the churches, in order to get them away from the more populous centers. The first rural cemetery of America, Mount Auburn at Boston, was established in 1831, and this was followed soon after by Laurel Hill in Philadelphia. Greenwood in New York was established in 1840. By 1860 the practice of churchyard burial was quite generally discontinued.

Funeral and burial customs have been handed down since ancient times. No one generation has seen any decided change in methods, although many customs of former times are now no longer practiced. The sacrament of the Lord's Supper at the grave was a common practice during the fourth century. Early in the nineteenth century those attending the funeral were given rings as memorials

of the dead. It was also a common custom to present the mourners with white leather gloves. Later black gloves were given and still later only the officiating clergyman was so honored, being presented with a pair of black silk gloves. From this custom we have the black gloves now worn by the pall-bearers.

Until recently it was a common custom to serve refreshments at the home of the deceased after the burial service to all attending the funeral. This custom still holds in Ireland and in many cases takes the nature of a feast, the preparation and serving of the food and drink being a heavy burden on the relatives of the deceased. Formerly the body was followed to the grave by practically all attending the funeral exercises, but in recent years the burial has become more and more private, concerning only the immediate family and near relatives.

Until recent years it was the custom to toll the church bell during the last hours and for some time after death. This was

to keep away the evil spirits, thus giving the departing soul a running start that the evil spirits might not catch up with it. Later the church bell was only tolled after death, but the practice has now been discontinued in most localities.

Because the early Christians believed in the resurrection of the body, the body was laid in the grave in an east and west direction, with the head to the west. The custom originated in order that the spirit might face the rising sun on resurrection morn. This has been a general practice until recent years, but is now passing. In all modern cemeteries no attention is paid to orientation, the graves being placed on the lot so as to make the best use of the space.

Coffins have been used since ancient times, the record of Joseph being, "they embalmed him and he was put in a coffin in Egypt." In England since the sixteenth century the distinguished dead have been buried in coffins; the poor were buried in a winding sheet, a coffin being

used only to carry the body to the grave. Coffin burial with the English-speaking people, however, has been practically universal for the past century. The orthodox Jews do not today use coffins for burial.

The present practice of keeping the body for several days after death, comes from an early custom of allowing three days for the departure of the spirit. We are told that when the sisters visited the tomb of Christ to anoint the body on the third day, as was the custom, they found the door of the sepulcher open and the body gone. In Germany the body is placed in open or ventilated buildings for several days before burial. In Sweden the body is removed to an open shed as soon as death occurs. All of these practices carry out the ancient belief of giving time and method for the escape of the spirit.

The practice of sitting up with the corpse is no longer considered necessary, although still in vogue in many localities.

A TOO COMMON CONDITION
Cóntrast this with the more modern conditions

CEMETERY ON THE LAWN PLAN
Mount Hope, Webb City, Mo.

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The "wake" is still observed to some extent, but rarely with the ceremonial of former years. The object of the wake seems to have been to keep the family from grieving over their loss.

CHAPTER II

ORGANIZATION AND OWNERSHIP OF CEMETERIES

Settlers in a new locality seldom make provisions for the burial of their dead. This is doubtless largely due to the uncertainty of their permanency. When the first deaths occur burial is made at any convenient place near the settlement, without reference to the establishment of a cemetery at this location. Other burials, however, take place from time to time and if the settlement becomes a village or city, the burial ground soon assumes the proportions of a cemetery. Should the settlement remain simply a settlement, the place of burial remains as the small country burying ground. Such places are invariably neglected and can hardly be dignified by the name of cemeteries. Marked by a few toppling mon-

uments among the tall grass, they are memorials not to the dead but to neglect by the living. Such burial places are common sights in America and emphasize the need of the organization of cemetery associations in rural communities.

With a scattered population it is best to bury the dead in the adjoining village cemeteries, thus doing away with the small and isolated graveyards. If, however, no village cemetery is within convenient distance, a cemetery corporation should be organized and a rural cemetery established. The donation of a proper site can generally be obtained and a small working capital established by the sale of lots to the incorporators. If the general ideas expressed in the present volume are carried out, there is no reason why the rural cemetery should not be successfully conducted.

Perhaps the greater number of cemeteries of America are owned by the small cities. These have been the logical development of the settlement burial

ground. Management is vested in a committee of the city councils, and all fees are collected and permits issued by the city clerk. The superintendent is selected because of his general fitness and good character. His remuneration is usually governed by the conditions of the locality in which the cemetery is situated. He is frequently found to act as gravedigger, superintendent, secretary, landscape gardener, and the entire working force of the small cemetery. These superintendents are, as a rule, faithful workers, but as they have only a scant appropriation to work with from year to year, however much they may realize the need of the cemeteries under their charge, they are seldom able to properly care for them owing to the lack of financial support.

Such city cemeteries can be bettered by an increased appropriation and the appointment of a cemetery board, say of three members, irrespective of membership in the city council; the appointments

so arranged that only one member retires or is reappointed each year. With such a board there can be no radical changes of management, which means continuity of work. In many cities it is advantageous to have the cemetery board and the park board as one and the same. In such cases it may be well to have a board of five members. With most of the cemeteries of the smaller cities there is a great need of education among the lot owners in order that there may be more simplicity in the care and management of the grounds, for this means more beauty and more economy in the care of the lots. In many small cities lots are given away or sold at only a nominal price, seemingly under the belief that each citizen is entitled to a 3 by 6 feet of Mother Earth. A suggested remedy is to charge more for the lots, have all fees go into the cemetery fund, together with an additional appropriation from year to year.

Where the ownership of cemeteries is vested in an association of lot owners and

governed by a board of trustees who serve without remuneration, the results are usually more satisfactory than when under county, township or municipal control. Where the trustees have established a perpetual care fund, such ownership by an association of lot owners is generally considered ideal.

Other cemeteries have been established and are under the control of a corporation not for profit. This arrangement is apt to result in a better cemetery than those previously mentioned, for the reason that a higher price is obtained for lots, out of which a part is set aside for a perpetual care fund. In many cases the superintendent has full charge, keeps all records, collects all fees and reports to the corporation at stated meetings. With the larger cemeteries under this management, the superintendent has charge of the grounds only, the business management being in charge of a secretary or treasurer.

The greater number of the new cemeteries established in recent years near the

larger cities, however, are owned by corporations for profit. It is also quite probable that a majority of all future cemeteries will be established by such corporation ownership. At first thought such ownership, the making of money out of the burial of the dead, may offend our feeling of propriety, but the fact remains that such cemeteries are successful because established and cared for on business principles.

Rightly managed there is every reason why such corporations should be successful. They should be close corporations, however, with no stock or bonds for sale to the public. A cemetery corporation is in no sense a get-rich-quick scheme. The stock cannot be made to pay dividends for many years and should thus be looked upon as a good investment in the nature of life insurance, rather than for any quick returns. We cannot too strongly condemn the organization of cemetery corporations for profit where the incorporators resort to quick returns either by

the sale of lots at auction or by the sale of stock to the public. The incorporators who will do this are simply getting out from under, leaving the purchasers to hold the empty bag. The incorporators should in all cases establish a proper perpetual care fund by the setting aside of a certain percentage of the purchase price of each lot for such purpose.

A few cemeteries are owned by various fraternal orders and religious denominations. The Catholic Church conducts its own cemeteries, some of which are modern and park-like.

CHAPTER III

THE PROPER LOCATION FOR A CEMETERY

A mistake in the location of a cemetery can never be remedied. In former years a common mistake was made in selecting a site too near the center of population, often requiring the removal of the dead a few years later in order to make room for the living. It is also quite possible to have the site too far away from the city, as this means added expense on the part of all in getting to and from it. In the selection of a site, provision must be made for the future growth of population. Accessibility is a very important item and a location upon or immediately adjoining a car line is very desirable. The condition of the approach driveway is also an important consideration, for if this has to be either constructed or kept in repair out

of the cemetery funds, it means so much less money available for cemetery purposes.

Land of gently rolling character is best. Such land lends itself admirably to the best landscape effects, with the gently curved drives winding around the elevated sections. Flat land is undesirable both on account of poor drainage and poor landscape effects. There is a sameness about flat land which cannot be fully overcome by landscape planting. Extremely hilly sites are equally bad, requiring added expense in grading and in the making of the drives and their constant repair.

The best soil is that of a sandy loam. Such soil is easily handled in grave digging, it practically drains itself, and it will be rich enough for the establishment of a fine lawn. If the soil is too sandy it will cost thousands of dollars to put on a top dressing of good soil for the establishment of a greensward, and a cemetery without green grass in profusion is a

desolate place, indeed. There is nothing more restful and inviting to the eye than green grass, and it is the most important item in the making of a beautiful cemetery. A clay soil will increase the cost of grave digging, cannot be well drained and retards decay. A soil with a stony stratum near the surface is absolutely unfit. The subsoil is a very important factor, the ideal subsoil being of a sandy or gravelly nature.

Too much care cannot be taken in the selection of a proper site, and in such selection some one with cemetery experience should be consulted. Where several sites are available it would be admirable to have the joint opinion of several cemetery experts. Too often land is selected because of being donated for the purpose, or because the owner is willing to take stock in the cemetery corporation, in full or part payment. Land not suited for cemetery purposes should not be considered at all, for the saving at the start will prove a great expense in the end. It

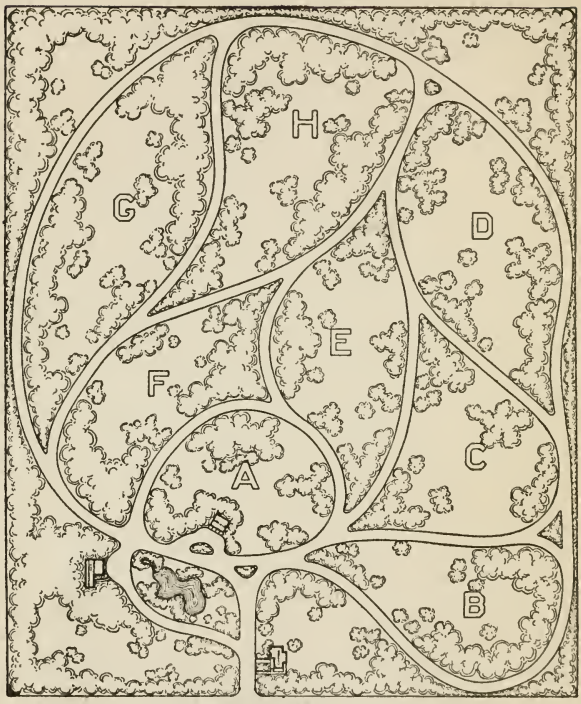
is not always possible, however, to obtain an ideal site, and in such cases all that can be done is to choose the lesser evil by selecting the best site that circumstances will allow.

CHAPTER IV

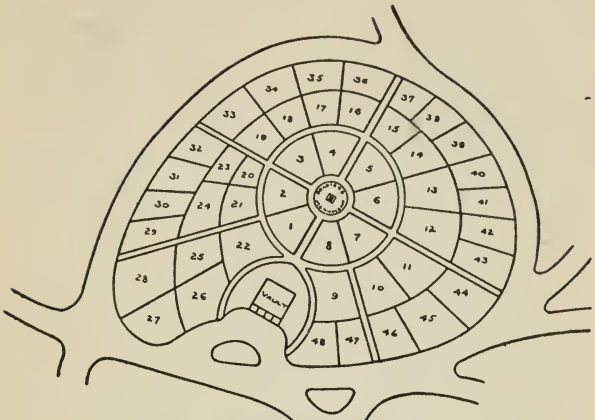
THE CEMETERY PLAN

The history of the cemetery plan shows an interesting evolution. The church graveyards had no plans, each family being given space as needed. Such space in most cases was fenced off into lots, each lot having a walk on all sides. When the cemeteries were separated from the churchyards, some sort of a plan of the lots was prepared and the lots numbered. Lots were mostly of a uniform size, with a walk on all sides: 16 by 16 and 20 by 20 were favorite-sized lots, the last named being known as a full-sized lot, which was easily divided into two 10 by 20 lots. A favorite arrangement was the one shown in the accompanying plan, but this plan is now rarely followed.

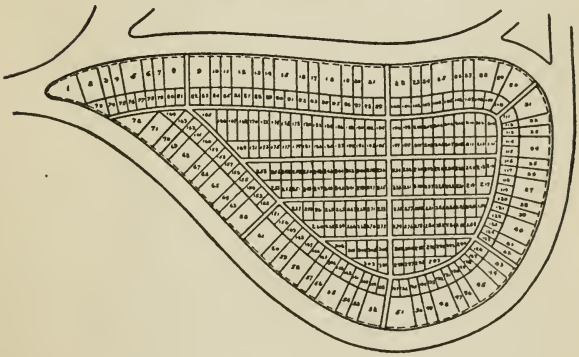
But with such an arrangement there is a great waste of burial space taken up



GENERAL ARRANGEMENT
MILLCREST PARK CEMETERY



SECTION A DIVIDED INTO LOTS
SCALE



SECTION B. DIVIDED INTO LOTS
SCALE

by the walks, and later plans called for walks on only two sides of each lot. This arrangement has also been rarely followed in recent years.

The greater number of the first cemeteries of America were laid out on plans similar to the above. The walks and drives ran according to the points of the compass and burial was always made east and west, the head to the west. The laying out of such cemeteries was intrusted to civil engineers and it is to be regretted that the members of this profession were only able to see lines which ran north, east, south or west. If a curved line was ever necessary, it was made an exact circle, radiating from a given center.

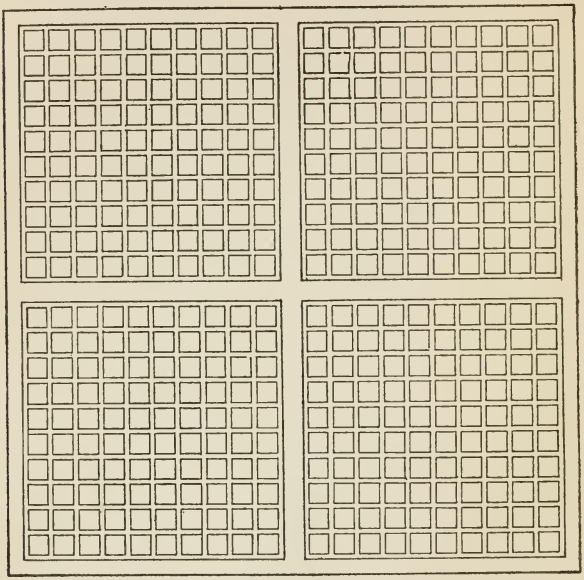
During recent years, however, most cemetery plans have been made by landscape architects who have made a special study of cemetery needs. The results have been pleasing landscape effects, beautiful curved drives which divide the cemetery into sections, and large and small lots suited to the needs of various

lot owners. A curved drive is always more pleasing than a straight road. In the curved drive we have an ever-changing view presented to the eye, while a straight road gives a sameness throughout. On a curved drive, if the view ahead is shut off by a planting of trees and shrubs, there is a desire upon our part to go on beyond the curve in order to see the new scene which will be offered to us.

In all recent plans, each lot faces only one walk. This has proved of great economy as it allows more burial space in a given area and there is thus less waste. Some have even advocated leaving out the walks entirely, but this is not considered advisable. In reality the walks are not generally used in getting to the lots, but by having each lot face on a walk, each lot owner may at least feel that he can get to his lot without trespass.

Except where the land is practically level, the first requisite for a cemetery plan is a topographical survey. This will show the contour and give the data of

elevation in all portions of the grounds. From such survey a study of the conditions is made and a general scheme of the



THE OLD STYLE PLAN OF LAYING OUT A CEMETERY
Contrast it with the plan of Hillcrest Cemetery

section divisions evolved. The drives are made to follow the naturally lower levels, so that the drainage may be away from the lots.

The drives should radiate from or near the entrance, curve around the elevations in the outlinings of sections, and be so arranged that one may get to each section as directly as possible. It is often advisable to have the main drive lead into the grounds for some distance from the gate, before diverging or losing itself as a main drive in the several drives around the sections. The drives should practically always curve, and yet lead in a natural manner to the points to be reached. The curves in the drives should be long and gentle, the road seeming to disappear in the distance.

Circles should be avoided on account of their stiff and formal appearance. Natural features such as lakes, creeks and trees should be taken into consideration in planning the drives. Some of these may greatly enhance the landscape beauty and cause the drive as laid out on the ground to be slightly different from that made on the preliminary plan. In case there should be anything on the ground

not taken into consideration in the making of such preliminary plan of the drives, the details of the plan should be changed accordingly.

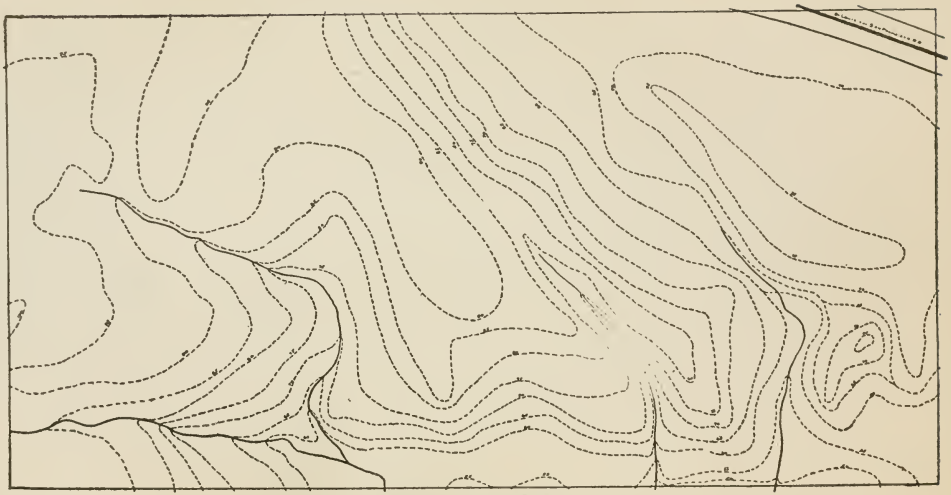
The width of the drives will depend upon the amount of traffic upon them. Twenty feet is a good average, but the entrance driveway should be at least thirty feet wide. If possible, the drives should not exceed a five or six per cent grade.

The size of the sections will vary according to the topography, no two being alike. Except where conditions make it unavoidable, sections should not exceed 300 feet in width, thus making every lot within 150 feet of a drive. It is also desirable that the sections should not be less than 200 feet in width, for the drives would then come too close to each other. The length of the sections, however, does not matter, varying from 600 to 1200 feet. The lots along the boundary lines may be divided into convenient sections by grass walks ten feet wide. This space

will form convenient planting space for shrubs and trees. Such boundary sections, having a drive only on one side are treated as one-half the width of the other sections, being from 100 to 150 feet in width.

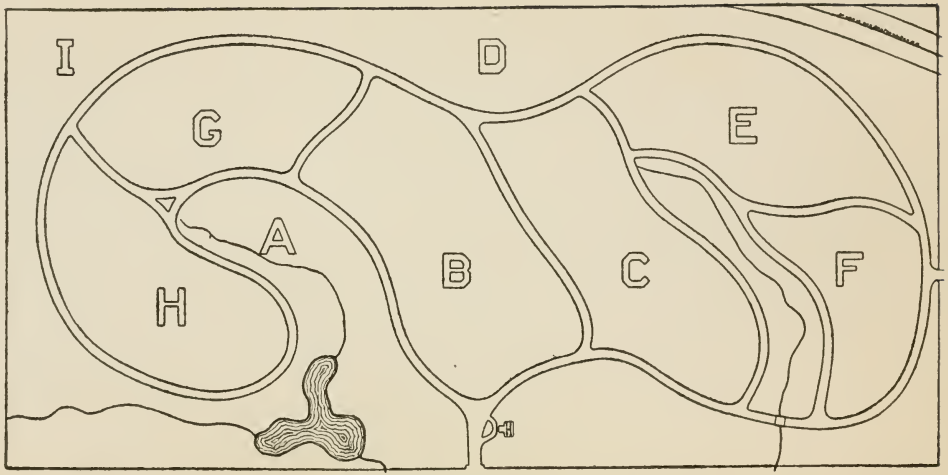
As the entrance to a cemetery is an important consideration, no lots should be laid out within several hundred feet of the entrance, this space being all needed for lawn and shrubbery to produce a pleasing first impression upon visitors and lot owners. No lots should be laid out within ten feet of the boundary line, this space being needed for landscape effects.

In the division of a cemetery into lots, no hard and fast rules are advisable. Conditions vary in different localities, but every cemetery should have both large and small lots. As a rule the large lots should be next the drives, but in case of a narrow section considerably elevated in the center, the large lots may well be placed in the center of the section.


TOPOGRAPHICAL SURVEY
FOR GROUNDS OF
OKMULGEE PARK CEMETERY
SCALE

The lots near the drive should be as large as can be disposed of, and never less than twenty feet in depth, preferably thirty. This is in order to avoid having the monuments too near to the drive. As a rule the lots farthest from a drive should be the smallest. In case every lot is to have a monument erected upon it, a uniformity of size is perhaps desirable. But as one monument can only appear to advantage when widely separated from others, a good arrangement is to have small lots next to the large lots, the deed to the small lots prohibiting the erection of monuments thereon. With such an arrangement the monuments will appear at their best.

W. N. Rudd, in speaking of his experience at Mount Greenwood, Chicago, states: "The main depth of the front lot is twenty feet. This with the planting space of two feet gives a depth to the back of the lot of 22 feet, and if the monument is placed within a foot or so of the back of the lot, and the lots on the other



Arrangement of Sections
OKMULGEE PARK CEMETERY

side of the drive treated in a similar way, an open stretch of ground 50 feet or more, including the drive, is preserved unobstructed by monumental structures. Adjoining the front lot and extending back to a four-foot walk parallel with the drive, should be another lot shallower than the first lot perhaps, or of equal depth. The minimum depth, however, of any lot should not be less than 17 feet. This gives space for two tiers of graves with their headstones, 16 feet, and six inches between the borders of the lot and the end of the graves, which should be the minimum allowance, one foot, of course, being better."

While it is a common practice, as already explained, to have each lot face a walk, this walk should not be more than three feet wide. While most walks are made parallel with the drives there should be some walks running the entire width of the sections placed at right angles to the drives.

The ideal section will have both large

and small lots suited to the needs and means of different lot owners. In such a case, only one or two sections of a cemetery need to be opened at first, the balance being fenced off and used for pasture, meadow or farm purposes; such an arrangement accomplishes considerable economy. As the lots are sold, new sections may be opened. It is not always possible to have this arrangement of lots, however. Low, flat land may have to be given up to all cheap lots, while a specially prominent section may best be made into large and costly lots. A space of two feet should be left between the drive and the lots, this being needed for drainage, water pipes and ornamental planting.

With the large lots it is not important to divide the space with reference to their division into grave space. But with the smaller lots this is an important consideration and they should provide for a given number of graves to each lot. Allowing three by six for grave space, two feet for markers, and a six-inch margin at the

border of a lot, a six grave lot would be nine by seventeen, such small lots, of course, not allowing for monuments. In fact, no monuments should be allowed on lots less than 14 by 20, containing 280 square feet, a space for eight full-sized graves and a monument. The family which cannot afford the purchase of a lot of this size certainly cannot afford a monument.

The single grave section should be provided for in the plan. This is perhaps best located at one side of the grounds. The graves should be laid out in rows, making as much use of the space as possible.

The location of the receiving tomb, service buildings, and the like must receive attention in the making of the cemetery plan. The proper location of a receiving vault will vary with circumstances, but it should be as near the entrance as possible, conditions and landscape effects being duly considered. The service buildings should be conveniently located, yet

not made prominent by being too near the entrance. The chapel may be located near the entrance, or near the center of the grounds as conditions may determine. The office should be located directly at the entrance.

A MODERN CEMETERY, LAKEWOOD, MINNEAPOLIS, MINN.
Note the absence of mounds and markers above the sod

CHAPTER V

GENERAL CONSTRUCTION WORK

A cemetery should be properly laid out before any burials are permitted; a common mistake is that of allowing burials before the grounds are completed and ready for such purpose. Perhaps the first item of importance is the general grading. In some cases little grading will be necessary, while in others much will have to be done. Steep slopes should be cut down, the aim being to have only gentle elevations. The top of sharp hills may best be cut down and the low places filled. The general grading, however, is such a local problem that only general directions can be given for this work. The important fact is that all grading is best done as the first start in construction work.

A mistake is often made in having too much survey work at the beginning, for when a cross section survey is made it is desirable to leave all stakes in place until after the lot markers are set. But these survey stakes are always in the way in grading operations, and on this account it is desirable to do all the rough grading before the cross section survey stakes are set in place. Then the survey stakes will prove an aid in setting the lot markers correctly and readily.

The making of a good lawn is of first consideration and it should not be expected that a good turf will be produced on a poor soil. The more experienced one is in the making of lawns, the more careful will he be in seeing that a proper foundation is laid for the sowing of the grass seed. Experience teaches that to sow the seed on a poorly prepared soil, is simply time and seed wasted. Labor spent in getting the soil in the proper condition is economy, and it is even better to delay the seeding for six months or even

a year than to waste the seed in a poorly prepared seedbed. "If a thing is worth doing at all, it is worth doing well," applies with special force in the preparation of ground for sowing grass seed.

It will be generally best to plow the entire surface and do any general or rough grading with scrapers. The surface must then be gone over with iron hand rakes to put the soil in the best possible condition for seed sowing. Many do not realize the importance of saving all top soil in grading operations. As a rule the soil on cemetery grounds is lacking in fertility, and if the original top soil is covered during the grading operations, other top soil will have to be hauled from a distance for a top dressing after the final grading. It is thus important to first put all top soil into convenient piles when any extensive grading is to be done, so that this top soil can be distributed as top dressing later. In case of a sandy soil, a top dressing of two inches of good loam will be needed. Commercial fer-

tilizers will aid, as will also stable manure. The latter is best applied in autumn, left on during the winter, and the coarser part raked off late in the spring.

A common mistake in sowing grass seed is so-called economy in the amount sown. *Never sow less than 70 pounds to the acre,* 125 pounds being far preferable for any quick results. Sow one-half the amount in walking one way and the other half in walking at right angles to the first sowing. Do not sow in windy weather and keep the hand low. Rake the seed in and roll well. Seed buried too deep will not germinate, and any exposed to the sun will be scorched or blown away. The best time for sowing is from the middle of March to the first of May, and from the middle of August to the middle of September.

The best mixture for different soils will depend upon local conditions. Local seedsmen generally have special mixtures, and if these dealers are reliable, it is perhaps best to depend upon such mixtures for general purposes. It should be re-

membered, however, that grass seed is more commonly adulterated than any other seed, hence the importance of getting the most reliable seed, no matter at what cost.

The following is a good combination for either light or heavy soils:

20 pounds Kentucky Bluegrass.
20 pounds Rhode Island Bent.
20 pounds Red Top.
10 pounds White Clover.

70 pounds per acre.

For sandy soils the problem is more difficult and it would be well to experiment with a variety of grasses in a small way to ascertain the proper combination which will be most successful. Any mixture for sandy soils should contain some of the following:

Agrostis stolonifera.
Agrostis canina.
Festuca rubra.
Poa pratensis.
Trifolium repens.
Trifolium pratense.

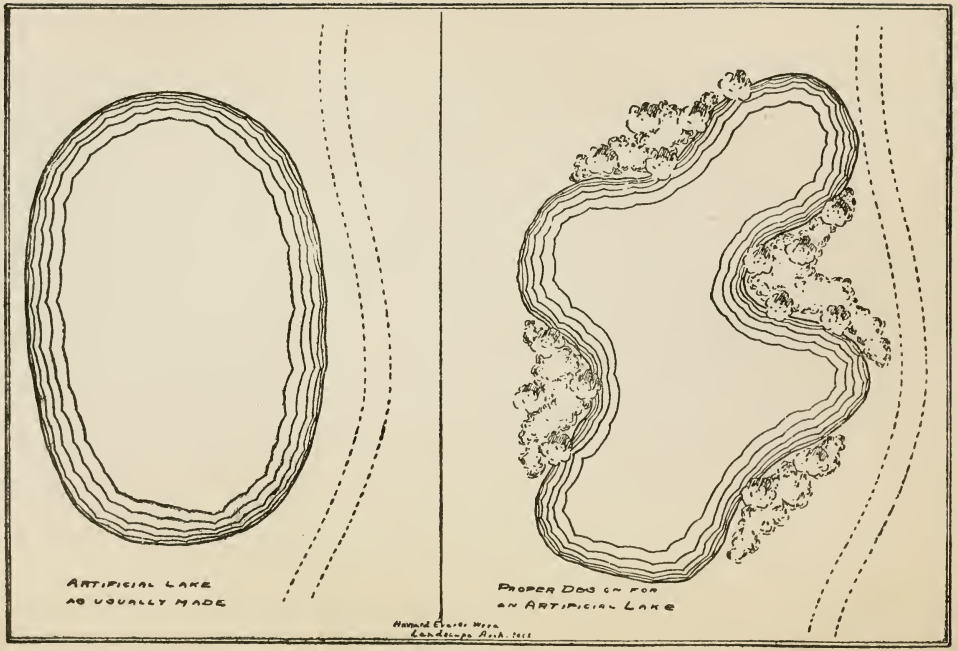
The last two are clovers and should be used at the rate of about one-fourth of the amount of the others. With extremely sandy soils the addition of Egyptian Clover (*Trifolium Alexandrinum*), Sand Lucerne (*Medicago media*), and Winter Vetch (*Vicia villosa*) will greatly aid in building up a proper tilth.

The general landscape effects of a cemetery can be greatly enhanced by the making of an artificial lake, provided a natural low place occurs on the grounds where such a lake would appear as a natural feature. In the construction of such a lake we should follow nature's example by making the borders with an irregular shore line. A round or oval lake without shrubs along its borders always looks stiff and will show at once its artificial character. But the same excavation, made with an irregular shore line and planted in places with shrubs, will make a most pleasing natural effect.

Compare the two plans shown in the accompanying illustration to see the vast

difference between the regular and irregular shore line. The lake with the regular shore line will look small because we see it all from any viewpoint. The lake with the irregular shore line will look large because only a part of the water effect is visible from any point along the shore. This last not only creates more natural beauty but makes the lake appear much larger than would otherwise be the case.

In all modern cemeteries the lot markers are furnished and set by the cemetery and not the lot owners. In marking out the lots temporary wooden stakes are first driven in the ground, and after this is completed for a section, the permanent markers should be put in place, the top of the markers being even with the surface of the ground. The old method of having such work done by the lot owner is poor economy, involving additional expense. It is much the better plan to have the price of the lots include the cost of the lot markers.



ARTIFICIAL LAKES

[52] As usually made A better way

The markers may be of several materials. White-topped terra-cotta markers may be purchased at small expense from several manufacturers. They can also be made of concrete with ordinary labor, and any carpenter will be able to make the form for such a purpose. The lettering and numbering is done by simply pressing the proper combination into the top of the mould. The cost of concrete markers for material and labor should not exceed fifty cents each. To enable the lot owners to readily locate their lots, the markers next the drive should have both the section letter, or number, and the lot number marked upon them. The markers should be six by six inches square on top and eighteen inches in depth.

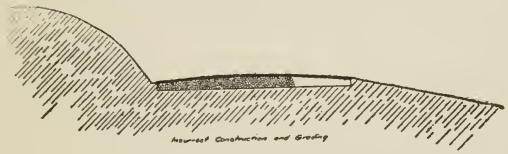
CHAPTER VI

ROAD CONSTRUCTION

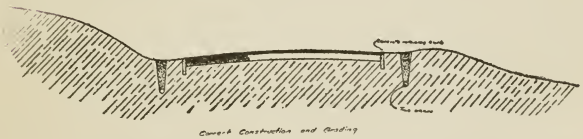
Road making in cemeteries is a subject which demands no small amount of thought and expense. The roads of a cemetery are a very important factor in its utility and attractiveness, and should be so constructed as to not only conform to the rules of landscape design, but to be correct from an engineering standpoint, and to meet the local conditions prevailing.

From the landscape point of view roads should be inconspicuous and of a color pleasing to the eye. The curves and grades should be carefully studied, and should change at some definite object. Curbs, and in many cases gutters, may be discarded to advantage, the surface water being allowed to collect in shallow grassed valleys in which catch-basins may be

located. Great care should be exercised in producing a nicety of contour in grades leading away from the road, to avoid terraced effects or broken crude slopes. In many cases it is best to carry the slope away on a tangent to the cross section of the road, reversing the curve gently and with long sweeping lines.



INCORRECT CONSTRUCTION AND GRADING



CORRECT CONSTRUCTION AND GRADING

DRAINAGE.

Drainage is in a majority of instances indispensable to proper maintenance. The expense of installing a drainage system is slight, and the cost of maintenance

practically negligible. Probably the best method is to lay a line of land tiles on each side of the road at a depth of from two and a half to three feet, installing at intervals of three or four hundred feet, silt basins set with their covers six inches below the ground surface and carefully located so that they may be uncovered and cleaned at periods of two or three years.

EARTH ROADS.

The earth road is the cheapest as regards first cost but in general it is ill suited for cemetery purposes. One of the chief objections being due to the fact that during the rainy weather or while the frost is leaving the ground in the spring it is apt to become well-nigh impassable on account of mud. Nothing so detracts from the appearance of a cemetery as a muddy, rutted driveway, and where possible a pavement should be substituted, which will be firm and dry at all seasons, and which can be easily cleaned.

GRAVEL ROADS.

Gravel Roads are extensively used, and form a fair substitute for the more expensive types of pavement, whenever a material of proper quality can be obtained. Gravel suitable for road construction should be composed of rock of a hard and tough nature, which will not easily be reduced under traffic, and should contain a binding material such as clay, iron oxide, silica, or some other ingredient which will furnish a fine dust of cementitious qualities.

In the construction of gravel roads the ordinary precautions should be taken to first remove the top soil and thoroughly roll the sub-grade. A layer of gravel six to eight inches deep should be spread evenly, and brought to a surface having a crown of three-quarters inch per foot of distance between the edge and summit of the road. If the gravel contains an excess of clay, the crown should be somewhat increased to compensate for the tendency to rut. The top surface should be composed

of material which will pass through a three-quarter inch ring, while larger sized materials may be used at the bottom. Many of the same objections may be made to gravel roads which are applicable to earthen roads, chief of which may be said to be their aptitude to become sticky.

BROKEN STONE ROADS.

Perhaps the most practical pavement for cemetery use is one built of broken stone, often referred to as macadam. Owing to the low cost of construction and maintenance, and to the wide range of materials of which it may be constructed, it has proved universally popular.

In constructing a broken stone pavement for the light use to which it is subjected in cemeteries, six or eight inches of crushed stone, ranging from one to two and a half inches in diameter, should be placed on a well compacted foundation, and thoroughly rolled in place in two layers, the interstices being filled with fine screenings washed into place

with water. Wherever trap, granite, or other hard rock of this character is employed, it is well to dress the road with three inches of material which will pass through a three-quarter inch ring. Only sufficient screenings should be used to fill the voids and to form a smooth, even surface. The main secret of success in building roads of this character, lies in the selection of road metals having natural binding qualities, with a toughness and hardness to warrant resistance against traffic and the elements, and in laying such materials so as to form a dense, homogeneous mass, which when dry from its first wetting will take on a quality approaching solid stone. The drainage of the road and the formation of a crown should tend to keep it free from moisture and consequent frost action. The crown of a broken stone road may be somewhat less than that of a gravel or earth road, the slope from the center to the side being about one-half inch per foot; one-third being applied to the distance be-

tween the center and the quarter point, and the remaining two-thirds between the quarter point and the edge of the road.

SPECIAL PAVEMENTS.

For many reasons the adoption of standard pavements, such as brick, stone and wood block, and sheet asphalt, is undesirable in cemetery work, chiefly because of the expense involved, and on account of the noise resulting from the hard surfaces. It is desirable to secure a pavement which may be laid at moderate expense, which will be pleasing in color, easily cleaned, dustless, and which, while possessing the necessary wearing qualities, will have a resilient, rubber-like nature, resulting in practically no noise under traffic. Such a pavement may be made in two ways:

1. By the penetration method, in which specially refined binders, in the form of tar or asphalt, are poured into the road metal, and

2. By laying a ready mixed material

composed of binder and stone upon a previously prepared foundation.

Pavements built by the penetration method have become popular on account of the simplicity of construction, and the remarkably good results which have been obtained at comparatively low cost. The object sought should be to secure on a well prepared foundation an even distribution of stone, well compacted and bonded, with an upper course of uniform thickness thoroughly impregnated but not overcharged with a binding material of proper cementitious value, and of sufficient range of ductility to withstand the climatic changes without becoming too viscous, or tending to disintegrate under extremes of heat and cold. The bottom layer may be formed of two and one-half inch crushed stone, four to six inches in thickness, rolled wet and bonded with screenings. Upon this a two-inch layer of stone, ranging from three-quarters to an inch and a half in diameter, should be formed to the proper crown and rolled

dry. Into this upper course, while in a thoroughly dry state the binding material may be poured, at the rate of from one to one and a half gallons per square yard, having previously been heated to a temperature of between 200° and 300° F. The binder should be allowed to flush to the surface, and should be covered while still hot with an application of clean sharp sand, or one-quarter inch screenings, free from dust and moisture. This top dressing should be rolled until the binder has, by compression, been thoroughly distributed through the upper course.

By the adoption of the second method, results of a more lasting character may be secured, although the initial expense is somewhat larger than by the penetration method. The procedure is as follows: Stone ranging from three-fourths inch to dust is graded to form a minimum percentage of voids. It is then heated and mixed with the binder by hand or by machinery, forming an asphaltic con-

crete, which may be laid similar to sheet asphalt, over a concrete or broken stone base. The success of such a pavement for park or cemetery purposes lies in obtaining the qualities previously mentioned, which can only be secured by the use of an asphalt cement of proper character. A binder of too low a penetration will produce a hard and resistant surface, slippery when wet, and noisy under horses' hoofs.

A type of asphalt, characterized by its stability under wide ranges of temperature and by its rubber-like nature, is made by fluxing an American asphalt of the nature of gilsonite with blown oils of asphaltic base. Such ready fluxed asphalts having a melting point of about 185° F., a penetration at 77° F. of between 64 and 69 (Dow method), and a specific gravity of over 98, are possibly best suited for the purpose.

When traffic of more severe nature prevails, binders of more ductile and cementitious nature should be employed.

In this class may be mentioned the natural lake asphalts, some of the California products and asphaltic oils reduced by distillation to a solid residue. These forms are somewhat more susceptible to temperature changes than the former type, but tend to produce pavements of greater wearing qualities, though having a tendency to become somewhat hard and slippery.

For park and cemetery roads, an average sample should have a specific gravity of 1.1, ductility at 77° F., of 17.3 c. m., a penetration at the same temperature of 108 (Dow method), may contain about 11 per cent fixed carbon, and should have its bitumen content entirely soluble in carbon tetra chloride.

Tar may be substituted for asphalt in either of the foregoing methods of road construction. It may be broadly stated that for such purposes partly refined coal tars with light oils are preferable, although there is a tendency to incorporate a percentage of refined water gas tar,

from which all water and a portion of the lighter oils have been removed.

Successful pavements have been laid by both the penetration and mixed methods by using a tar analyzing as follows: specific gravity 1.27; flash 270° F.; melting point 124° F.; penetration at 77, 24 (Dow method); loss in five hours at 325° F., 7 per cent; penetration after volatilization 3 c. m.; hardening 87.5 per cent; mineral .2 per cent; fixed carbon 34 per cent.

Dust Suppression.

In the suppression of dust lies one of the greatest problems of present day road maintenance. The old method of sprinkling with water is ineffectual and expensive. To obtain the best results the road should be sprinkled lightly and often to keep the surface in a damp condition, rather than to be flooded with water, thereby tending to form pools, resulting in the formation of the pot holes so disastrous to the road.

In order to retain a moist surface with a minimum amount of water, the practice of using sodium or calcium chloride has been adopted in some cases. These chemicals, especially the latter, have a property of not only conserving moisture but of precipitating it from the atmosphere, and when mixed with water and applied to the road surface will cause a dustless condition to exist for a considerable length of time. In the use of these chemicals, however, care must be exercised not to allow the solution to come in contact with grass or other vegetation.

The most common methods of suppressing dust and increasing the lasting qualities of road surfaces now in operation are by the use of oils, tars, or asphaltic substances, and may in general be divided into three methods.

1. The application of oil or tar in a pure state direct to the road surface.

2. The application of oils in suspension or solution with water.

3. The use of special compounds of oily nature.

In carrying out the first method it is well to use an oil which has been freed of its volatile elements in order that it may have more body and be less odoriferous. It is best to use an asphaltic base oil of from 18 to 21 specific gravity, and to apply to a surface which has been previously cleaned of all detritus. The oil can be applied by an ordinary street sprinkler, or by men with sprinkling cans, the spouts of which have been flattened. One application of from half to three-quarters of a gallon per square yard is usually sufficient for one season's wear. The road should be covered with a thin sprinkling of stone screenings, and allowed to dry for a day before opening to traffic.

The method of incorporating oil of this character with the road metal is usually disastrous, inasmuch as it destroys the natural binding qualities of the rock, and is not of sufficient cementitious value to counteract this loss. Where binding material is employed in this way, it should be of sufficient density and adhesiveness to form a firm bond.

In the use of oil emulsions formed by mechanical means an economical and effective way of dust suppression is obtained. By this method the oil is applied to the road in small but sufficient quantities to bind the dust particles together, and retain them on the road surface, while the objectionable features found in applying heavy layers of oil are obviated. It has been found expedient to use a mixture of paraffin and asphaltic base oils, in the proportion of about three to one, and to avoid the formation of an asphaltic crust on the road surface by applying a sprinkling of "dead" sand. This practice also results in forming a slight cushion, desirable on macadam roads.

A plant for the manufacture of oil emulsion may be made by using a series of contiguous tanks connected by means of pipes fitted with valves. Hot and cold water together with steam connections should be supplied, and a pressure pump installed in such a manner that

material may be pumped from any tank into any other, or into a delivery vehicle. In preparing a batch of emulsion one tank is isolated for the purpose of heating a supply of water. Into the second tank fifteen pounds of soap added to 100 gallons of water and boiled for five minutes, after which 60 gallons of common fuel oil and 30 gallons of asphaltic residuum are added, and emulsified by being pumped from one tank to another through a reduced nozzle for twenty minutes. The stock solution thus formed is then pumped into a sprinkling cart, and five hundred gallons of warm water added.

After three daily applications, the road need be treated but once in three or four weeks.

Under the third class may be mentioned various chemical emulsions, or compounds which are sold in concentrated form, and which have the advantage of being miscible in cold water by reason of the oil having been treated with ammonia, potash, or caustic soda together with animal

or vegetable fat; this reacts with the chemical ingredient, forming a soap and aiding in emulsification. Generally speaking these compounds are expensive and somewhat impractical for this reason.

A CHAPEL SO SURROUNDED WITH TREES AND SHRUBS AS TO SCARCELY SHOW THE BUILDING
Graceland, Chicago

THE CURVED DRIVE DISAPPEARS IN THE DISTANCE
Graceland, Chicago

CHAPTER VII

LANDSCAPE DEVELOPMENT

The landscape features of the modern park and the modern cemetery are essentially the same, with green grass, flowers, shrubs and trees so arranged as to produce a harmonious effect, pleasing to the eye. The modern park contains many features for the amusement of the living, while the modern cemetery contains monuments to the dead.

To produce a pleasing park-like effect, the landscape architect must conceive the completed picture in the imagination, and develop on paper a detailed working plan, drawn to a scale. Such a plan must be a "planting plan" showing the location, number and variety of all flowers, shrubs and trees to be planted. A thorough knowledge of the topography, soil and climatic conditions is essential in the

making of such plan. The plan should be developed so as to give pleasing vistas to distant portions of the grounds, with plenty of open places showing only green grass.

Perhaps the most important feature of the landscape plan is the cemetery entrance. First impressions are always the most lasting, whether this be said of a cemetery or anything else. Thus the first impression of a cemetery should be so pleasing that visitors will wish to be buried therein. This may be accomplished by a distinctly park-like effect near the entrance, with plenty of lawn space, the harmonious grouping of the shrubs, and enough flowers to give a color effect to the landscape. Shrubs planted around the entrance, and ivy on stone or brick buildings are quite essential.

Carpet bedding with its formal straight line effects has little place in the modern cemetery—it is unnatural and expensive. Annual flowers will give color and cheer when properly placed near the entrance,

but they should not be placed in beds near the center of a stretch of lawn. They will give pleasing effects when planted near the buildings or in front of the shrubbery borders. Some annuals such as petunias, Drummond phlox, and zinnias get ragged, overgrown and messy, and need strict care to keep them neat.

The best landscape effects cannot be obtained when flowers are planted on the graves. The individual grave is but a small detail of the whole grounds, and the general appearance of the cemetery should not be marred by planting thereon. A cemetery which gives the most pleasing landscape effects is the most successful. It is then both a quiet resting place for the dead, and an inspiration to the living.

Care should be taken in the planting of evergreens. Formerly so many of these were used in cemeteries that they were not wanted elsewhere. More recently there has been a tendency to leave them out of cemetery planting entirely, but this is a great mistake. One

trouble heretofore has been that a single variety, the Norway Spruce, was used, and with many the term evergreen has been used synonymously with this variety. The Norway Spruce is pleasing only when young. Sooner or later its lower branches die and are cut off, thus giving the plant a trimmed-up appearance, which is neither pleasing nor natural.

There are many varieties of evergreens which should find a place in cemeteries. As a rule they should be planted in groups of several varieties in a group, but with some one kind predominating. The Colorado blue spruce gives a delightful color effect with its light color of the new foliage. Other good spruces are the Douglas, Hemlock and Concolor. The White, Scotch and Austrian Pines make stately trees, while the little Mugho Pine gives a delightful low effect.

No evergreen should be planted except with the ball of dirt intact wrapped in burlap. When received from the nursery, plant the burlap with each plant, simply

cutting the strings after being placed in the holes dug to receive them. Neither deciduous trees nor evergreens should have their lower branches removed. Nor should they ever be pruned into unnatural or formal shapes. Nature gives each plant a shape peculiar to that variety, and any attempt to interfere with nature's beauty gives stiff and formal effects.

Generally speaking trees should be grouped with only two or three varieties in a group. Single specimens should be trees of individual merit, and may be planted on lots in lieu of monuments, when such planting does not interfere with the general landscape scheme. Too many trees will make too dense a shade for the best lawn effects.

The best varieties of trees for cemetery use are those of slow growth. Trees which send out suckers should be avoided. On this account the black locust should not be planted, especially in a sandy soil. Plant willows sparingly, and only then along a lake or stream of water. Avoid

the Catalpa for it sheds either flowers, leaves or seedpods every day of the year, all of which must be cleaned up. The Cottonwood is nearly as bad in this respect, while the leaves of the Carolina Poplar are the first to litter up the lawn in early autumn. The silver-leaved or Soft Maple is a rapid grower of pleasing appearance when young, but becomes undesirable with age.

The hard maples make desirable trees for general planting, but do not do well in a sandy soil. Schwedler's and Reitenbach's maples are most excellent for single specimens on account of their colored foliage. The Norway Maple makes a medium-sized symmetrical tree, while the Sugar Maple in time makes a very large tree. Wier's Cut-leaved Maple is good for a small individual specimen, especially if planted in a group of shrubs. The Lindens and the White and Black Ash are excellent. The Mountain Ash gives a pleasing appearance with its unique foliage and red berries, but is

rather short-lived. In localities where the Birches will succeed, large numbers of them should be planted on account of their pleasing white bark. The Purple Beech sparingly used produces most excellent color effects. The stately Elm has individual merit and will grow in most any soil. Avoid the Weeping Mulberry, for a cemetery contains enough things to suggest sorrow without enhancing this feature in the landscape. It should be remembered that birches, tulips and sycamores can only be transplanted successfully in the spring. Most other trees do as well, or better, if transplanted in autumn.

While a large variety of the flowering shrubs are available, the main landscape effects should be obtained with but few native varieties. It is especially important to avoid shrubs which sucker readily, for these will require extra care to keep them within bounds. Thus the common purple lilac, or varieties grafted upon its roots, should not be used. The common

white lilac is not thus objectionable. Lilacs grafted upon privet roots are apt to die out and the privet thrive. Shrubs should be massed with a dozen or more of the same variety in a group. Several varieties may be planted in the same grouping, or a single variety may be grouped alone. Care should be exercised in the proper grouping, as some kinds do not look well when grouped with discordant varieties. Thus the coarse looking barberries should not be planted in the same group with the frail looking weigelas.

Desirable low growing shrubs are the Snowberry, Indian Currant, Deutzia gracilis, Spiræa Anthony Waterer, Rosa rugosa, Kerria, Rhodotypus, Hydrangea and Thunberg's Barberry.

Desirable medium growing shrubs are the Weigelas, Forsythias, Spiræa Van Houttei, Viburnum plicatum and Cephalanthus.

Among the tall growers may be mentioned the several species of Philadelphus,

Tartarian and Morrow's Honeysuckle, the various Privets, the Dogwoods and practically all the Viburnums.

It should be remembered that some shrubs will not do well in a sandy soil, some succeed best in a clay soil, some must be planted only in a dry situation, while a few succeed only with wet feet. The various species of sumacs do well on sandy soil, and most excellent effects may be obtained by their use. The Indian Currant and Snowberry will also do well in sandy soils. The dogwoods are excellent for planting near water. Attention must also be given to light and shade. The lilacs, pæonies, Japan iris and others must have direct sunlight, while the Viburnums, Snowberry and Indian Currant will do well in shady situations. In fact only such varieties should be planted that are known to be a success in the locality in which the cemetery is situated. Texas and California, for example, have flora peculiarly their own, and varieties which do well in New York would not

succeed in these states and vice versa. Local conditions must always be taken into consideration, and the main plantings made up of native varieties. Beginners invariably plant too many varieties, but experience soon teaches that many of them will not succeed. Experimentation in this way does no harm other than the loss of a few plants, but care must be taken to have the main planting of dependable varieties.

A great number of the perennial flowers may be used, but it should be remembered that the proper effects can be had only when they are planted in large masses. Twenty or more plants of the same variety together will produce an effect, when two or three plants would not be noticeable. Most perennials should be transplanted every three or four years, for otherwise they become a tangled mass of roots with but few flowers. Some excellent perennials are the Gaillardia, Phlox, Delphinium, Hollyhock, Foxglove, Poppy, Rudbeckia and a host of others.

Some of the small bulbs, like the Lily of the Valley, spread rapidly and should be only sparingly used.

In planting the perennials place them along the front of the shrubbery beds, where they may have a background of foliage. It is also important that the soil for the perennials be well prepared before planting, for otherwise a large number of the plants are apt to die out. Do not plant perennials in freshly turned sod, for it is better to delay the planting for a year, than to attempt the planting in an unprepared soil.

A large number of the annual flowers may be used about the entrance, and as fillers among the perennials. Geraniums and Salvias are especially useful for color effects. Roses may also be used to advantage when placed in beds near the drives. In the south and on the Pacific coast many kinds of tea roses are available, but in the northern states a selection must be made of the hybrid perpetuals, and even these will require winter pro-

tection. They are mostly grafted upon Manetti roots, and after two or three years the top or grafted portion is apt to succumb to the climatic conditions, new shoots coming up from the roots. Hence the rose beds will require frequent renewals if good buds are expected.

Pleasing effects may also be had with the use of the ornamental grasses, massed in groups. Three or four varieties may be used in one group to advantage.

Every cemetery should have a small nursery ground where the perennials, shrubs and trees can be cultivated in rows. The main object of the nursery is to have the plants on hand for convenient transplanting when wanted. The nursery stock can often be purchased very economically by the hundred, and if young stock is obtained, it can be grown in the nursery for a year or more before the permanent planting. Shrubs will often be wanted for filling in beds, or to give a proper setting to new monuments, at a season of the year when the trans-

planting could not be done successfully, without having the plants near at hand.

Greenhouses are not so much needed in connection with modern park cemeteries, as was the case with the cemeteries of former years. Flowers are not used on the graves, and the annuals desired for planting about the entrance may be purchased of a florist, or propagated in hotbeds and cold frames in the nursery grounds.

CHAPTER VIII

THE SUPERINTENDENT AND HIS DUTIES

The success of a cemetery is almost entirely dependent upon the superintendent in charge. He should therefore be selected with great care. He should have absolute control of the grounds and all that pertains thereto, subject only to the orders of the trustees. His financial remuneration should be in accordance with his efficiency, as shown by the appearance of the grounds, and his treatment of the lot owners and others with whom he comes in daily contact.

The superintendent should enforce the rules, see that all visitors conduct themselves in a proper manner, supervise all workmen, have full charge of funerals when within the grounds, keep the records, advise as to the location of graves,

A WATER EFFECT IS ALWAYS PLEASING

the selection of lots, the design and setting of monuments, and a hundred other things of daily occurrence. Few positions of trust call for such varied knowledge, such infinite detail, such insight into humankind, such forbearance. A superintendent must give ear to the troubles of the widow and orphan, dry the tears of the sorrowing, give a word of cheer to the discouraged, and at all times present a pleasing appearance of dress and manner. To become proficient in all this work may well discourage most men. A majority of the cemetery superintendents are careful, painstaking men, worthy of more remuneration, as a rule, than they receive. But it is to be regretted that most of them have come into this work with no special aim in view other than as a means of living. Many have only local experience, know but little of what is done in other localities, and too often look upon their work as a daily grind. To such superintendents the Association of American Cemetery Superintendents

holds out a helping hand. Membership therein will give a superintendent hope, encouragement, ambition. It will show him what others are doing, and thus help in the solving of many local problems.

To become an efficient superintendent may well be the ambition of any young man. It is to be regretted that there is no school where one may obtain at least an insight and guidance to proper methods. A young man expecting to follow this line of work must have a good general education and plenty of tact. Business ability, a knowledge of mechanical drawing, engineering, general horticulture and landscape gardening will all help. The practical knowledge must be obtained by actual experience. This may best be obtained by work in several of the larger park cemeteries, where the older and more experienced superintendents will gladly give of their knowledge and experience to aid any deserving young man desiring to enter this attractive field of work.

The modern park cemetery is so largely

dependent upon landscape gardening for its success, that a knowledge of this art is specially important to a superintendent. Its general principles may be learned from several good text-books on the subject, while many of the garden magazines contain helpful articles. A number of the agricultural colleges have courses in horticulture and landscape gardening, which would be of great benefit to cemetery superintendents. The short winter courses offered by many of these institutions are specially suited to the needs of superintendents.

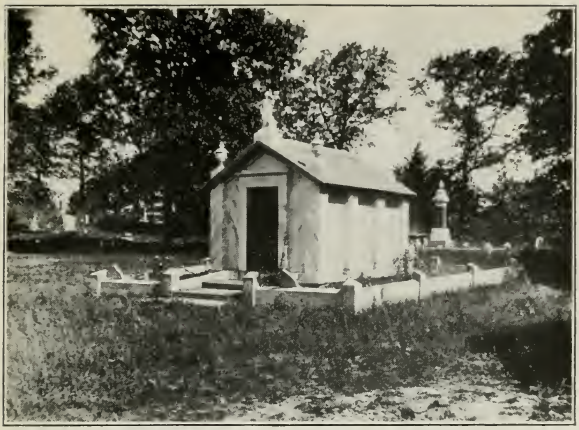
A successful superintendent must have a knowledge of trees and shrubs. With a natural love for nature's outdoor art and observing eyes, much of this knowledge can be gained by daily observation. A superintendent should know the heights to which various shrubs grow, in what soil conditions they will do best, and the varieties which group well together. In fact, the better horticulturist a superintendent becomes, the greater will be his success.

CHAPTER IX

MAUSOLEUMS, MONUMENTS AND HEADSTONES

Many people do not desire earth burial, but wish the body placed in sealed vaults. For such purposes family mausoleums containing a number of recesses for the placing of bodies are allowed in most cemeteries. Some cemetery authorities have even allowed the erection of so-called public mausoleums, containing crypts for the reception of as many as three hundred bodies. Practically without exception, superintendents condemn the public mausoleum idea. If allowed at all, the public mausoleum should by all means be erected, owned and controlled by the cemetery association. In all South American countries public vault burial is quite common.

Although cemetery officials generally



A MAUSOLEUM POORLY DESIGNED, BADLY CONSTRUCTED, AND WITH A USELESS COPING AROUND THE LOT

A MAUSOLEUM PROPERLY PLACED

Note the lawn in the foreground, the few shrubs next to the building, and the background of trees and shrubs

condemn vault burial as insanitary, with but few exceptions family mausoleums are allowed, it being thought best to cater to the desires of all in the disposal of the human body. Cemetery officials are also opposed to mausoleums, for the reason that at best they are not very permanent structures, condensation and frost contributing very largely to their destruction. It is, as well, a very difficult matter to find a desirable place for a mausoleum so as to give it an artistic setting, without infringing upon the rights of adjacent lot owners. The latter consideration does not seem to have been given proper consideration where these structures are numerous.

Care should be exercised in selecting material for mausoleums. Cheap grades of granite, marble and stone are not enduring. Concrete, unless skillfully mixed, is unreliable. All foundations should be not less than five feet in depth. Cemetery officials should require the design and specifications of a mausoleum to

be submitted before any permit for its erection is issued. They should also require the deposit of a special fund for its perpetual care. In no case should one mausoleum be a duplicate of another. A mausoleum of specially artistic merit may prove quite an ornament to a cemetery, while one which is commonplace will soon become an objectionable feature.

No mausoleum should be allowed on a lot of less than fifty feet in depth, the front of the building at least forty feet from a drive. The proper setting for a mausoleum is fully as important as the building itself. To accomplish the best results, the front portion of the lot upon which the mausoleum is erected should be left in grass, and at the back of the building tall shrubs and trees should be planted. A few low growing shrubs next to and in front of the mausoleum, will generally add to its attractive features.

Family monuments have come into use during recent years, the headstones

of former times being practically individual monuments. It is now the practice to have but a single family monument upon a lot, the only inscription thereon being the family name—surname only. The monuments are preferably placed in the center of the lot, but the location and shape of some lots may be such as to make other locations more desirable. In many cases it will be advantageous to have the monuments upon the rear of lots which face a drive.

Each monument should be of artistic design and possess individual merit. No monument should be in any way a copy of another and they should not be crowded together. A ten thousand dollar monument crowded in among a lot of others of like value, does not appear nearly so well as a thousand dollar monument standing by itself. This shows the advisability of the purchase of large lots for the display of monuments, or rather the advisability of allowing monuments only upon large lots.

All monuments should be of natural stone. Imitation affairs made of sheet iron and the like are distinctly bad, and should not be allowed. A natural boulder is often pleasing and inexpensive. Granite however, must be the main material for their construction. All foundations for monuments should be five feet in depth and constructed by cemetery employees. Monuments should bear only the family name. To place thereon the record of each individual of the family is not only useless, but detracts from the beauty of the design.

It is important that each monument have a proper setting to show it off to the best advantage. Such a setting should consist of plenty of green grass in the foreground of the picture presented to the eye, with a massing of shrubs and trees in the background. This arrangement will make the frame, of which the monument is the picture. Just as a landscape or portrait painting shows off best when surrounded with an appropri-

A COSTLY MONUMENT BADLY PLACED

Note the coping, fences and corner markers. A neglected cemetery because of complex conditions which add to cost of maintenance

A MONUMENT WITH A PROPER SETTING

Graceland, Chicago

ate frame, so a monument will show to best advantage when given a proper natural framework. The beauty of the handiwork of man represented by the monument is then enhanced by the beauty of nature in its surroundings. Too often the proper setting for a monument is given no consideration, by either the superintendents or lot owners, and it is hoped that the future will see a great improvement in this respect. With each monument having artistic merit, properly placed in a natural setting, with no other stones showing above ground, and with plenty of green grass giving vistas between the shrubs and trees, a cemetery may well be a thing of beauty and a joy forever.

There should be some sections of a cemetery wherein no monuments are allowed. Such sections have proved quite popular during recent years, as many parties do not wish lots in monument sections, fearing that the lack of a monument upon their lot would show

poverty. Where they are given the opportunity of purchasing a lot in a section where no monuments are allowed, they are much better pleased.

Headstones should in all cases be placed with the top even with the surface, so as to allow a lawn mower to pass over them. This means economy in care and greater beauty in the general landscape appearance. With headstones showing above the surface we have the old graveyard scene, but buried in the ground they do not appear in the landscape picture, and we then have a park-like effect. No one thing contributes more to economy and improvement in appearance than the setting of the headstones in the ground. It costs more to cut the grass around the headstones when projecting above the surface, than it does to cut all the grass upon a lot. We thus very greatly decrease the cost of annual care by placing them with the top even with the surface of the lawn.

Each headstone should bear only the

inscription in depressed letters of the name and year of birth and death, thus:

JOHN DOE
1847 — 1910

Headstones should be of granite, with flat top. They should not be less than eight, nor more than twelve inches in thickness; nor more than twenty-four inches in width, and at least five inches in depth. Headstones of concrete will do fairly well for single graves. They are easily made, and the name and dates can be pressed in the top of the mould. Each marker will thus cost about fifty cents. It is not claimed that concrete is durable or even desirable for markers, but such markers are infinitely better than no markers at all, or the wooden stakes commonly used. It will pay cemeteries now using wooden markers to substitute the concrete markers for them. Each grave would then be properly marked, and a saving of labor in care would result by having all markers even with the surface.

CHAPTER X

RULES AND REGULATIONS

As simplicity is the keynote of the modern park cemetery, the regulations to that end should plainly indicate what may and what may not be done, both by the lot owners and others. The lot owners must be given to understand, from the very first, that in the purchase of a lot, they purchase only the right of burial thereon, subject to such regulations as may then be in force, or that may afterwards be adopted. The regulations should be such that the park nature of the cemetery will be kept in view, and they should prohibit anything which will be detrimental to the general appearance, or add in any way to the cost of the care of the grounds.

The following rules are offered as suggestive of the ground to be covered: their adoption will assure modern park meth-

NATURAL BOULDERS OFTEN MAKE GOOD MONUMENTS

ods, and it is strongly urged that new associations follow them closely. The older associations should also adopt them, at least so far as any new additions may be developed from time to time.

1. All lots are sold subject to the rules and regulations of this cemetery now in force or which may hereafter be adopted. They shall be used for no other purpose than the burial of the human dead.

2. Subject to the orders of the trustees, the superintendent shall have absolute charge of the cemetery, and is authorized to enforce the rules, to maintain order, to supervise all workmen, visitors and drivers, to expel from the grounds any improper person, or those who violate the rules, and to refuse admission to any persons or materials when he may deem such action necessary.

3. All lots are sold subject to ordinary perpetual care, and all work thereon will be done under the direction of the Superintendent by the cemetery employees, except when permission is otherwise given.

4. Lot owners shall not allow interments on their lots for a remuneration, nor shall any transfer or interest therein be valid except by the written consent of the Trustees endorsed upon such transfer or assignment.

5. No enclosures of any nature, such as fences, copings, hedges or ditches, shall be allowed around any lots.

6. Grave mounds shall not be allowed. No lots shall be raised above the established grade.

7. No trees, shrubs or plants shall be planted, pruned or removed without the consent of the Superintendent. Acting for the best interests of the cemetery, the Superintendent shall have authority to prune, remove or transplant any tree, shrub, plant, or anything upon a lot, when he may consider such a course necessary.

8. Only one stone or marker will be allowed, and this shall be placed at the head of the grave. All markers must be of granite at least five inches in length,

not less than eight nor more than twelve inches in thickness, and not more than twenty-four inches in width, the top being set with and following the contour of the ground. No double marker, covering more than one grave, will be allowed.

9. No monuments will be allowed on lots covering less than 280 square feet, and only one monument will be allowed on any lot.

10. No monument shall be less than four feet high and of granite. No monument shall cover more than seven per cent of the ground space of the lot. The design and specifications of monuments must first be submitted to the Superintendent for approval, before being ordered or placed.

11. The foundation for all monuments must be at least five feet deep, and will be made by the cemetery employees at the expense of the lot owner—at least five days notice being required for such purpose.

12. No material shall be allowed to remain longer than is reasonably nec-

essary for any construction work. No work shall be started on Saturday which cannot be completed on that day. No heavy teaming will be allowed in wet weather.

13. No interment will be permitted, or body be received unless the proper certificate is furnished giving the name and residence of the deceased, the name of the nearest relative, and the time, place, and cause of death. Eight hours daylight notice must be given before any interment.

14. But one interment shall be made in a grave, except a mother and infant, or two children in one coffin.

15. Funeral processions, upon entering the cemetery, shall be under the control and subject to the directions of the Superintendent.

16. No disinterments shall be made except by cemetery employees, with the consent of the Trustees, and upon the written request of the lot owner.

17. No interments shall be made on Sundays or holidays, except in case of

special necessity, or contagious diseases, in which case special fees will be charged.

18. No person shall enter the cemetery except through the gates, which will be open from seven a. m. to six p. m.

19. No smoking shall be allowed upon the grounds. No dogs or persons with firearms shall be permitted within the grounds.

20. Single graves will receive the same perpetual care as other portions of the grounds. In case of the removal of a body from a single grave, the ground shall revert to the cemetery, and the usual charge for disinterment will be made.

21. All charges for interments, removals, foundations, or other work, must be paid in advance.

22. The Trustees reserve the right to inter any bodies placed in the receiving vault whenever thought necessary. Bodies dead of contagious diseases cannot, under any circumstances, be placed in the vault.

23. These rules and regulations may be changed at any time by the Trustees.

CHAPTER XI

PERPETUAL CARE

By perpetual care is meant the keeping of the grounds in condition after the cemetery has ceased to be used for burial purposes. There is every reason why all cemeteries should have perpetual care. Ground once used for burial purposes should ever remain sacred, and this can only be secured when the proper fund is set aside for its future care. With such a fund invested in good securities, and controlled by a cemetery corporation, which may be reasonably expected to endure generations to come, all has been done that may be done to perpetuate the care of a cemetery.

If the first cemeteries of America had been guarded by an investment fund for perpetual care, we would not have the neglected conditions now so commonly

seen. Certain it is that no new cemetery should be established without such provision. In fact, the question is now so well understood in most localities, that a new cemetery without perpetual care features, would be of very doubtful success, and would have to cater to a very poor class of lot owners. Almost without exception the new cemeteries have adopted the perpetual care feature, while the older cemeteries realize the mistake of not having been so endowed, so that now when new sections are opened, provision is made for the perpetual care of such sections.

The perpetual care fund is derived from setting aside a part of the amount obtained from the lot sales, or from the assessment of each lot of a certain amount per square foot. Where the first mentioned method is practiced, from ten to fifty per cent of the price of each lot goes into the fund. Formerly the larger amount was considered necessary, but now that the headstones are being placed

even with the ground, and the cost of care otherwise reduced, only from ten to twenty per cent of the purchase price is thought necessary to provide for perpetual care. Where an assessment per square foot is levied, the amount necessary varies from ten cents to two dollars. Twenty-five cents per square foot seems to be considered a fair average.

The investment of the perpetual care fund is an important consideration, and better legislation in this regard is needed in most states. It is believed to be more satisfactory to have the funds kept within the control of the cemetery corporation, rather than in that of general trust companies, in order to avoid legal complications. The fund should only be invested in bonds and first mortgages where absolute security may be expected. No definite rate of interest can be counted upon, as this varies according to demand from year to year. In former years five or six per cent interest could be readily secured, but at the present time it would be only

safe to count on obtaining a three per cent interest when estimating the amount of income from the fund in future years.

Care must be taken that no binding contracts are entered into as to what constitutes perpetual care. General care only should be specified, and under no consideration should a contract be made calling for some special work on a lot. No one can foretell the future, and were a contract made, for example, to water the grass during the summer months, the whole fund might be jeopardized by the failure of a water supply.

The acceptance by a cemetery corporation of a fund for the perpetual care of certain lots only is of doubtful utility. There can be no question but that a cemetery should have perpetual care for the whole grounds, rather than individual lots. Of what use is perpetual care for a lot surrounded on all sides by neglected lots? It stands to reason that a cemetery will either be cared for or neglected in future years as a whole. Its beauty or

ugliness will be judged as a whole, and not by the condition of a certain lot. A few neglected lots will depreciate the esteem in which the cemetery is held, more than the same number of lots kept in fine condition, can maintain it. Thus it must be that any fund for the care of certain lots will also be expended upon those adjoining. The practical working out of this feature means perpetual care for the whole cemetery. Lot owners will do well to see that all lots are sold with the perpetual care feature, for it can then be more reasonably expected that their lots will have better care than would be otherwise possible.

CHAPTER XII

CEMETERY RECORDS

One of the many improvements characteristic of the modern cemetery is the complete records kept. Such records are needed for many reasons. They are useful to the lot owners in the identification of their lots and the location of interments thereon. They are useful to the cemetery officials in that they furnish a concise history of the disposal of each body admitted to the grounds. The laws of most states require that certain records be kept, and boards of health require data as to the cause of death as well as details concerned, undertaker, etc. All such records should be kept in permanent form.

It is to be regretted that some of our smaller cemeteries do not keep the proper records of interments. Without such records it is not possible to definitely

locate graves without headstones, while a large per cent of interments are made without any markers. Thus the location of graves often becomes unknown within a few years.

To keep accurate cemetery records the following books are necessary:

1. A register of deeds giving location, description and dimensions of each lot sold, with name and address of each purchaser.

2. An index to all lot owners with their addresses. It is also well to have the name and address of the nearest relative.

3. A register of interment, with index, containing the data generally required by boards of health.

4. Lot diagram book. This is a plat of each lot which is filled in from time to time as interments are made and monuments erected. Such a diagram book shows the condition of each lot at all times, and is a great convenience for office reference.

5. Single grave register. This should

give the names in regular order, numbered consecutively, of interments made in the single grave section. A separate index should also be kept giving the names alphabetically with the grave number corresponding to each name.

6. The removal book, in which is kept the data relating to removals and reinterments.

Many cemeteries keep these records in the nature of a card index system, but it seems to be the consensus of opinion among superintendents that the records are simplified when kept in books for the purpose.

CHAPTER XIII

THE CEMETERY BUILDINGS

The various buildings within a cemetery will vary so much with the local conditions and needs that but little need be said regarding the subject in this work. The small cemeteries will have only a small frame tool house, while the large cemeteries will have elaborate office buildings, costly chapels, vaults, superintendent's residence, and the like.

The office of the cemetery should be located directly at the entrance, and, in fact, may be made an integral part of it. A location just within the grounds and within an appropriate distance of the drive is advisable. Good landscape effects may be obtained by having the office face the entrance, with the drive diverging to each side. The building should have architectural beauty, and be

CHAPEL, LAKEWOOD, MINNEAPOLIS, MINN.

LADIES' WAITING-ROOM, MINNEAPOLIS, MINN.

of durable construction, stone or brick being preferred. It should have a general reception room with adjoining toilet, an office room for the transaction of general business, a fireproof vault for the storage of records, and a private office for the use of the superintendent.

While a common practice with the smaller cemeteries, it is not, however, generally advisable to have the superintendent's residence near the entrance, and to use a front or side room of this for office purposes. It is better to have the superintendent's cottage away from the entrance, and at least separated from the general grounds by landscape planting, so that it may not appear as a part of the cemetery. A good location for the superintendent's residence is adjoining the general grounds or across the street from them.

The chapel is a feature upon which some of the larger cemeteries spend considerable money. Its nature and cost will necessarily vary with local conditions.

A location near the entrance is desirable, but this will depend upon landscape effects. The chapel need not be large, and in many cases it will be advisable to have the chapel and office in one building. The chapel should be kept ready for use at all times and have palms, ferns and other plants as decorative features. In case the cemetery has a crematory, this should be underneath the chapel, with an opening in the chapel floor for the lowering of the casket.

A vault for the reception of bodies previous to burial has heretofore been considered an essential feature of a cemetery. Such vaults, however, are not now so much used as in former years, and they are needed only in the more northern states, where the severe winters do not allow of convenient burial at that season.

All service buildings should be readily accessible, but hidden from the general grounds by proper landscape planting.

CHAPTER XIV

CHARGES FOR LOTS AND GENERAL SERVICES

The German expression of "Gelt regiert die welt," is but another way of saying that in its practical application everything comes down to a dollars and cents basis. The ideal "cemetery beautiful" of the landscape architect must remain in the imagination until placed on a solid financial basis for its practical construction. It takes money to establish a modern cemetery, it takes money to keep it going, and it requires a perpetual care fund to assure its continuance in after years. Thus a cemetery must first be a financial success in order to be a success in other ways.

The fundamental reason why the old-time graveyards have been so generally neglected, is owing to a lack of business

principles in their establishment. In times past lots in cemeteries were practically given away, hence their neglect at the present time. We rarely get anything of value without cost.

Our modern cemeteries are modern because they are established and managed on business principles. Nothing has been expected to come from nothing. Money has been used to construct suitable burial grounds before any lots have been sold. Then in order to assure a permanent financial foundation, the lots have been sold at prices commensurate with the services rendered. One does not, as a rule, purchase a lot in a cemetery but once in a lifetime. Then why expect it for little or nothing? Often a lot purchaser will complain of paying a hundred dollars for a lot upon which he will erect a thousand dollar monument.

The main source of cemetery revenue comes from the sale of lots. Formerly the lots were sold at so much per square foot, and in many cemeteries this is still

practiced. But it is now a common practice to charge a stated amount for the lots, the price being dependent upon size and location. Some lots are decidedly more desirable than others, and should be sold accordingly. Thus lots near a drive are more desirable than lots near the center of a section. Lots in conspicuous or elevated places are more desirable than others. Lots upon which monuments are to be erected should sell for more per square foot than the adjoining lots without monuments.

It is manifestly undesirable in this connection, to say at what price lots should be sold. Prices must necessarily vary in different localities, and from year to year, and are so dependent upon the service rendered, that only general statements can be made. What would be only a fair price in a given cemetery and locality, would be entirely too much in another locality and vice versa. But it should be especially remembered that some lots are worth more than others and should be

sold accordingly. The ideal cemetery will contain both large and small lots, sold at all possible prices to suit the needs of a variety of possible lot purchasers. A cemetery should have single graves for those who cannot afford the purchase of lots.

It is important to have the most desirable lots high enough in price compared with other lots, that all the best lots may not be sold before the less desirable. When a new section is opened, prices for that section should be determined on a basis of value without special reference to the prices which have formerly governed such sales. The prices of lots should always be sufficient to assure a permanent income for the management of the cemetery along modern lines.

It is highly desirable to have lots purchased in advance of interment thereon. In this way a proper selection can be made without undue haste. With newly established cemeteries it is also best to have lots purchased as soon as possible,

after being offered for sale in order to create a sufficient fund for immediate use. It is often many years before the sale of lots is sufficient to provide a proper revenue for maintenance. In some such cases it is advisable to sell lots by the square foot without reference to location, the first purchasers being given the choice of location.

Other sources of income to a cemetery are the charges for grave-digging, the foundations for headstones and monuments, lining the graves with evergreens and flowers, the use of tents at funerals, lowering devices, and the like. In many places lowering devices and tents are furnished by undertakers, and the grave lining by florists, or undertakers. But there is no reason why the cemetery should not obtain whatever revenue there is to be obtained from anything done within the grounds, and cemetery officials should decide what they wish to do, and what they may have done by others.

Some of the services for which special

charges have heretofore been made, should be included in the general care. In other words the price paid for the lot should be sufficient to include some of the items for which a charge was formerly collected. Thus as soon as the graves become sunken, they should be filled in in the general course of cemetery work. The lot markers should be set in place before the lots are sold. No flowers being allowed on the lots, no annual fund for such purpose will be needed. The price for grave-digging should include the sodding over of the graves. The cemetery conducted entirely under perpetual care will not require the collection of funds for annual care. In general, by having the first cost of the lots sufficient to include their care, greater simplification and less detail results.

These cuts are used by courtesy of Harmony Grove Cemetery, Salem, Mass.

EVOLUTION IN A NEW ENGLAND CEMETERY

Type of lots 1840—1860. See Nos. 2 and 3.

TYPE OF LOTS IN HARMONY GROVE, 1860—1890

TYPE OF LOTS IN LAWN SECTION, 1911

CHAPTER XV

THE IMPROVEMENT OF OLD CEMETERIES

It is naturally difficult to create an ideal cemetery out of one that was not established along modern park methods from its conception. Yet the fact remains that nearly all the present cemeteries have great possibilities for beauty; although the longer they are left under present conditions, the more money there will be wasted from year to year in the cost of up-keep. With the old style methods the cost of annual care must necessarily be considerable.

The greatest expense of annual care consists in keeping the grass cut. Where there are monuments, headstones, footstones, coping and fences to interfere with such work, each lot becomes a separate job. But with the headstones even

with the ground and without coping, fences and footstones, we have only monuments to mow around, and this greatly simplifies the work. The cemetery can then be cared for as a whole and not as individual lots.

What is needed in a majority of our cemeteries is a thorough overhauling for all time. By this is not meant simply a good cleaning up, such as the raking off of the grass and weeds, which most cemeteries receive each spring. By a thorough overhauling is meant the giving of every lot and walk the attention they need to put the cemetery strictly on the park plan. Everything possible must be done to simplify matters, for in simplicity lies beauty and economy. All useless materials such as shells, stones, glass vases, or anything which causes labor in care must be taken away. There are no great problems in so doing, but the work must be done thoroughly as it progresses. Such a thorough overhauling does not cost more than the expense of care for

one year, and once put into condition along park lines, the cost of annual care is decreased 75 per cent. Any superintendent who is practical in his ideas, and knows what should be done to get away from the former complex conditions, can accomplish much in a cemetery.

If the following simple things are done in any cemetery a great saving in the cost of care would result:

1. Remove fences, or hedges from around all lots.

2. If copings are quite high, either remove them or reduce them to surface level. If they are only a few inches high, grade up on both sides so that the lawn mower will pass over them.

3. If the graves, or any of them, have been mounded up, level them off to an even surface.

4. If the walks are lower than the lots, haul on enough dirt to bring them up to the grade of the lots. If any lots are specially high take them down to the general grade. If this cannot be done on

account of the monument foundations, then lower the monument. If a lot is on the side of a hill and has been made level, grade it down to the natural slope of the hill.

5. Remove all footstones.

6. For graves marked with a wooden label, substitute simple headstones of cement with the names impressed thereon, and with the top even with the surface.

7. With very tall flat headstones, separate the inscription part from the base and place in the ground with the inscription up. In some cases it may be well to substitute new cement markers for these.

8. Have the lot markers even with the ground so that the lawn-mower will pass over them.

9. Have only grass walks between the lots.

10. Do not allow planting on the graves. The planting of shrubs on the lots should conform to the general landscape features of the grounds. Do not

allow evergreens to be planted on the corners of lots.

"But the lot owners won't allow it." Of course not, because they have heretofore been more or less taking care of their own lots. They have arranged the lots as they are because of a desire to do something, and they knew of no other way. There is a great need for the spreading of the gospel of simplicity among the lot owners, and all cemetery officials should consider it their duty to aid in this education. An explanation here, a suggestion there, a pointing out of the *reasons* for these simple things, will soon bring about a change in sentiment, so that a well-meaning superintendent can accomplish the desired results.

But nothing is more true than the old saying, "a prophet is not without honor save in his own country." Thus it is that a superintendent cannot always do what he knows should be done in the cemetery under his charge. Very often, also, the superintendent is too timid and

fears criticism from some influential lot owners. Where such is the case a competent cemetery authority, or a landscape architect giving attention to such work, should be engaged to give the cemetery the needed overhauling. A meeting of the lot owners should be called, and the whole subject put before them in a heart-to-heart talk. Such a meeting may well take the nature of a lecture illustrated with stereopticon slides, showing the present condition of the local cemetery, as compared with others conducted on modern park lines. In this way the possibilities of the local cemetery, and the simple changes needed to bring about a better condition therein, can be fully explained. The day following such lecture the lot owners can meet the cemetery expert and the superintendent at the cemetery, when the individual needs of each lot can be explained.

The condition of the majority of the cemeteries of America is a crying shame. The mistakes of the past are being re-

peated, and the neglect shown is a disgrace to any self-respecting community. "God's acre!" Let us have "God's acre beautiful!" City authorities or influential citizens desiring to do good to the communities in which they live, can do no nobler work than in a thorough overhauling of the cemeteries.

In many American cities there are old cemeteries in which burials are no longer made. The mistake was originally made in locating them too near the centers of population. After all the lots are sold, such cemeteries become abandoned in less than a single generation, most of the original lot owners being dead or removed from the locality. The present generation is not sufficiently interested in the graves of thirty years ago. So the headstones topple over, the monuments lean to one side, graves sink in, weeds and grass grow in luxuriance, and lichens cover the inscriptions, all showing the passing of the years.

An abandoned cemetery acts as an

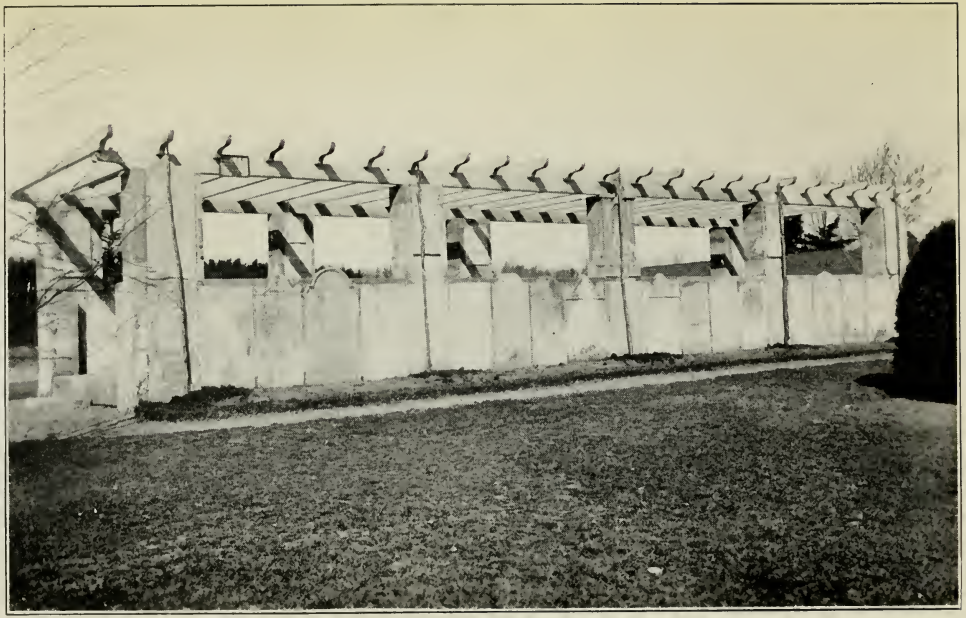
ever-present obstacle to the improvement of a locality. Real estate values remain low. Only tenement houses are erected, and these are often as neglected as the cemetery itself. The best part of the city grows in the opposite direction, as no one desires to live in such a neighborhood.

What is to be done with such an abandoned cemetery? There can be but one practical answer to such a question, and that is to make it into a park or children's playground. Thus the resting place of the dead will become the enjoyable breathing or recreation place of the living. "Recreation" place is the proper name, for it is the place of the re-creation of the bodies of the dead to their original elements, and the place of the re-creation of the living into healthful manhood and womanhood, by fresh air and outdoor exercise. The ground having served its useful purpose in past generations, is now made enjoyable for both the present and future generations.

In the reconstruction of an old cemetery into a park, or playground, the whole surface is smoothed off, and coping, fences, and footstones are removed. A happy disposal of the monuments and headstones, with their quaint inscriptions, would be the erection of a pergola with them as was done in Galt, Ontario. Here the monuments were used in the formation of the pillars, with the headstones in two layers, back to back, placed between. In this way all the inscriptions show and can be read, except where the consuming process of time has rendered this impossible.

In case it is desirable to leave the monuments to some distinguished dead undisturbed, these can be surrounded with a planting of shrubbery to obscure them. Or if the monuments are specially artistic, they may be given a proper setting of shrubs as a background, thus making a park feature of them. The graves need in no way be disturbed or the remains removed.

Some of the leading parks of America were formerly graveyards. The south end of Lincoln Park in Chicago contains the remains of the city's first settlers. Eastside Park of Lansing, Mich., was formerly the city cemetery, and there are other examples in many localities. As soon as the abandoned cemeteries are improved, and left as cemeteries or made into parks, a change for the better becomes apparent in a locality.



PARK SCENE IN GALT, ONTARIO

Pergola faced with old stones from an old cemetery formerly on this site

CHAPTER XVI

CREMATION

The ancient Romans practiced cremation as a universal custom. The ashes of the dead were placed in urns and deposited in the tombs. During the past century many attempts have been made in Europe and America to revive this ancient custom, but with no great success. The first crematory in America was built in 1876, and there are now 47 crematories in the United States, most of them being in connection with cemeteries. The necessary retorts are generally built in connection with a chapel, or other building, and cost from twelve hundred to four thousand dollars.

Whatever belief one may have in a future existence, common sense teaches that the body has to do with this life only, and that when life leaves the body, it

must return to the original elements from which it came. "Dust to dust, ashes to ashes." While some have a horror of incineration after death, others have the same dread of putrefaction. One of these processes is inevitable, the only difference being in the time consumed, the one being rapid and the other slow. The Egyptians thought to preserve the body for all time by embalming, but in later years the resulting bodies were used as firewood by the wandering Arabs. Dr. Wickes states: "It has been estimated that 400,000,000 mummies were made in Egypt up to the seventh century, at which time the process was discontinued."

In America many endeavor to delay putrefaction by embalming, placing the body in sealed metallic caskets, burial in cement and the like. But all precautions taken to preserve the body must necessarily be useless. Time is eternal and nature's laws cannot be overcome. The bodies now buried in cement may sometime be exhibited in future muse-

ums, just as the mummies of the Pharaohs of ancient Egypt are now exhibited to a curious public.

The traveler in the older centers of civilization is ever impressed with the sense that millions upon millions of people have previously inhabited these regions. Burial places are present upon every hand, both within and without the cities. In many localities of southern Europe the same ground is used over and over again, the graves being reoccupied after a period of from four to fourteen years. In some cases the grave is dug to a depth of 25 feet, several bodies being placed in the same grave with a foot or so of earth between.

As a sanitary precaution cremation must eventually come into more general use in the larger cities of America. History shows us that the plague and other diseases have many times practically depopulated the earth. Various parts of Asia and southern Europe form a hotbed for cholera, and it is claimed that out-

breaks of this disease have been traced to exhumations. All cemetery workers know what a sickening odor results from putrefaction, especially where the body is deposited in vaults. During the French Revolution many of the Paris mob were overcome and sickened upon the breaking open of the coffin of Francis I, buried 250 years before.

The problem of getting room for the burial of the dead near the large cities is becoming more and more acute. Calvary Cemetery in New York contains over 600,000 bodies, or approximately 2,800 per acre. Other cemeteries are equally crowded, one potter's field containing 75,000 bodies. Land which is set aside for cemetery purposes is, or should be, held for such purposes for all time. Under perpetual care such will be the case. But American cities are growing rapidly, the census of 1910 showing an increase in our cities of from ten to 246 per cent. Incineration seems to be the only solution of the disposal of the dead in the future

years, or else there must eventually come a time when the dead will occupy so much ground that there will be no room for the living.

From the standpoint of economy cremation has everything in its favor, the cost of incineration being about twenty-five dollars. Compare this amount with the cost of grave-digging, marker and monument. As at present practiced the coffin is incinerated with the body, but there is no practical reason for so doing. In many parts of Europe a municipal coffin is used for the funeral services of the poor, the body being taken from the coffin for burial. With the present day sanitary methods practiced by the undertakers, coffins might well be rented to the poor for the funeral and to carry the body to the crematory. Those able to pay for a coffin could purchase one as is now done. With incineration as a common practice, less expensive coffins would be in demand, for all would understand to what temporary purpose they were put.

Such a practice would go far to relieve the high cost of burial.

All the larger cemeteries should be equipped with a crematory. The purpose of a cemetery is to dispose of the bodies of the dead, and as incineration is one of the methods used, a cemetery cannot be said to be complete without an equipment for such purposes. The method of the disposal of the ashes should be left with the relatives, or to the wishes of the deceased. Some will desire that the ashes be scattered to the four winds, or cast upon river, lake or ocean water. Some wish the ashes buried in the grave the same as the body would otherwise be buried, while others desire the ashes scattered on the grass or deposited in urns. The best disposition of the ashes is undoubtedly their burial in the family lot.

In writing upon this subject Thomas White of Riverside Cemetery, Fairhaven, Mass., ably says: "The office of incineration is performed as it should be in a

private manner. The last rites concern the immediate family only. The unseemly conduct of curious crowds sometimes witnessed at funerals is avoided. The family and friends accompany the body to the chapel and one or two are permitted to see the body placed in the retort, a heavy soapstone door is raised, the casket pushed into a chamber made of fire clay, the door closed and the flames turned on. There are neither flames, smoke nor odor to cause sensation; anything at all gruesome about the process exists only in the imagination. When we have overcome the prejudice of two thousand years the benefits of cremation are obvious. When we see the flower-covered casket lowered from our sight, and have been assured by the presence of one or two friends that cremation is an accomplished fact, we have performed for our dead the last office. Which is the more shocking to the sensitive mind? Seeing the casket gently lowered beneath the chapel floor to undergo the

quick process of disintegration by fire; or seeing it lowered into the earth to meet the same end by the slow and repulsive process of corruption?"

Cremation has everything in its favor, and must eventually become a general custom. It is clean, rapid, sanitary, sure. Those who do not favor it have given the subject little or no thought, or associate the burning of the body with that of hell fire. Physicians, undertakers, cemetery employees, and all others whose work enables them to know anything about the subject, are in favor of incineration as being the most practical method of the disposal of the bodies of the dead.

CHAPTER XVII

CEMETERY LAW

The statutes of the different states vary considerably regarding the laws affecting cemeteries, common law governing where no particular statute covers a case. There is much uniformity, however, in the statutes relating to the transportation of dead bodies. Most states prohibit the establishment of new cemeteries within the corporate limits of a city, while some prohibit their establishment within a given distance from any dwelling. A few states even prohibit cemetery corporations for profit. Practically all require a record of burials, age of the deceased, cause of death, and the like.

Every city has ordinances relating to cemeteries, the transportation and burial of the dead. In a general way the city

ordinances have the same requirements as the state laws, but more stringent, often covering many things not covered by state law. All cities require a burial permit, issued from the Board of Health office.

"Mortuary Law" by Perley* is a work of 200 pages, which covers the subject of cemetery law quite ably. While of particular interest to lawyers as a guide in the trial of cases affecting cemeteries, it is also of interest to cemetery officials as relating to the general laws affecting cemetery work.

The cemetery laws of New York state have been compiled in book form by Powers,† giving all state statutes relating to cemeteries, undertakers, embalmers and burials. It also contains forms for bequests, the transfer of lots, and the like. It would be a great convenience if such a publication existed for each state.

Cemetery officials should be posted on all state and city laws which in any way

may affect their work. For such purpose, copies of all legislative enactments and city ordinances should be kept at hand. However much the management may desire to keep within the law and to avoid trouble with the lot owners and others, an action at law is apt to occur at any time, often starting from trivial causes.

*"Mortuary Law," by Sidney Perley. Published by Geo. B. Reed, Boston, 1896.

† "Laws of Cemetery Associations," by John Powers. W. C. Little & Co., Albany, N. Y., 1901.

CHAPTER XVIII

CEMETERY LITERATURE AND THE A. A. C. S.

There has been comparatively little cemetery literature of practical value, otherwise the present volume would not have been prepared. "Of the making of books there is no end" cannot be said of subjects relating to the burial of the dead. Various articles on the relation of cemeteries to public health, burial customs in various countries, cremation, etc., have appeared from time to time in current literature. These articles have been of a general nature and of little real use to one engaged in cemetery work. The following are perhaps the best books and pamphlets on the subject, though most of them are entirely out of print:

"A catalog of Some Books Relating to the Disposal of the Bodies and Perpetu-

ating the Memories of the Dead," by John Townsend, New York, 1887. A fairly complete bibliography previous to the date of publication, and of interest to those desiring to make a full study of burial customs.

"Intramural Interments in Populous Cities," by John H. Rauch, M. D., Chicago, 1866. A good presentation of the relation of burials to the public health, calling attention to the necessity of having cemeteries away from populous centers. Many of the conclusions reached, however, are erroneous.

"God's Acre Beautiful," by Wm. Robinson, London, 1880. This work calls attention to the value of cremation, and advocates urn burial of the ashes.

"Sepulture. Its History, Methods, and Sanitary Requirements," by Samuel Wickes, M. D., Philadelphia, 1844. This work deals with the history of burial in various countries, and the relation of burials to the public health. It attempts to show how outbreaks of cholera, yellow

fever, and other diseases have been traced to cemeteries, following the exhumation of bodies. In the light of our present knowledge of the dissemination of yellow fever and malaria, we know the conclusions to be fallacious. The work is of interest, however, from its historic data.

"Modern Cemeteries," Chicago, 1898. This work contains various papers read before the meetings of the Association of American Cemetery Superintendents up to the date of its publication. Unfortunately only a few copies were printed, so that the work has been out of print for some years.

"Perpetual Care in American Cemeteries," published by R. J. Haight, Chicago, 1908. This little work is a fine symposium of the methods practiced by various cemeteries relating to the collection and investment of perpetual care funds. It should be in the hands of every one interested in cemetery management.

"Park and Cemetery," is a monthly

journal published by R. J. Haight, Chicago. It contains practical articles on present day methods of cemetery management, and it is largely through this medium that the modern methods have been disseminated. It is the organ of news between cemetery superintendents and others interested in this work.

"Proceedings of the Association of American Cemetery Superintendents" contains the published papers read before the annual meetings of this Association. It is free to all members of the Association, and contains most valuable matter.

THE A. A. C. S.

There are always leaders in every line of human endeavor. In the early eighties a few of the leading cemetery superintendents realized the need of an exchange of ideas among themselves. They desired to ascertain the methods of management used by others, prices for lots, burials, and the like. Finally a meeting

was called in 1887, which resulted in the organization of the Association of American Cemetery Superintendents. This organization has proved a power for good in bringing about our modern conditions, making the park cemeteries possible. The annual meetings of the Association are held in various cities, and a part of the program of each meeting consists of a visit to the cemeteries in the immediate vicinity. The papers read before the meetings are practical, being presented by men of experience, and the discussions following each paper are of great value in the exchange of ideas.

All superintendents and other cemetery officials are eligible for membership in the Association upon the payment of three dollars annual dues. Any cemetery official or superintendent who fails to join this Association is simply standing in his own light, contented perhaps with his own knowledge of a subject which is his life work. Mutual helpfulness is the keynote of fellowship with the members

of this organization. Hence all cemetery officials should join its membership. Such an organization, working for the good of humanity, should receive the hearty co-operation of all.

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